KOLOTIY, M. [Kolotii, M.]; LEVIN, I.

Reconstructing barns for loose housing of cows. Sil'. bud. 9 no.2:10-12 F '59. (MIRA 12:6)

1.Chlen kollegii Ministerstva sel'skogo khozyaystva USSR (for Kolotiy). 2.Nachal'nik Upravleniya po stroitel'stvu v sovkhozakh Ministerstva sel'skogo khozyaystva USSR (for Levin).
(Dairy barns)

KOLOTIY, M.

Let's secure the complete fulfillment of the yearly building plan.
Sil'.bud. 11 no.11:10-11 N '61. (MIRA 15:3)

1. Zamestitel' nachal'nika Glavnogo upravleniya sovkhozov pri Sovete ministrov USSR.
(Ukraine--Construction industry)

KOLOTIY, M., inzh.

Mechanized farm for fattening 2,500 pigs. Sil'.bud. 12 no.9:3-5 S '62. (MIRA 15:11)
(Swine houses and equipment)

KOLOTIY, M.

Improvement of the quality of construction is the most important objective. Sil'.bud. 13 no.10:3 O '63. (MIRA 17:3)

1. Chlen kollegii Ministerstva stroitel'stva i zagotovok sel'skokhozyastvennykh produktov UkrSSR.

KOLOTIY, N.

Introduction of nonmetallic pipes in rural water supply.
Gidr. i mel. 17 no.11:40-44 N '65. (MIRA 18:11)

1. Zamestitel' ministra sel'skogo khozyaystva UkrSSR.

KOLOTIY, N., inzh.

Water pipes made of glass. Sel'.stroi. 15 no.9:23-24 S '60.
(MIRA 13:9)

(Water pipes) (Pipe, Glass)

KOLOTIY, N. A. (Veterinary Surgeon, Sovkhoz-combine "YUzhnyi" /"Southern"/, Crimea Oblast'.

""Chlorophos", an effective means for the control of the Persian tick Argas persicus."

Veterinariya, Vol. 38, No. 3, 1961, p. ~~XXX~~ 73.

IDOMSKIY, B.M.; KOLOTIY, N.A., veter. vrach

Vaccination of poultry against infectious laryngotracheitis. Veterinariia 40 no.5:38-39 My '63. (MIRA 17:1)

1. Glavnyy veterinarnyy vrach Ptitsesovkhoza-kombinata "Yuzhnyy", Krymskoy oblasti (for Idomskiy). 2. Ptitsesovkhoza-kombinata "Yuzhnyy", Kryskoy oblasti (for Kolotiy).

KOLOTIY, N.A., veterinarnyy vrach

Chlorophos as an effective means in controlling the cosmopolitan chicken tick. Veterinariia 38 no.3:73-74 Mr '61 (MIRA 18:1)

1. Sovkhoz-kombinat "Yuzhnyy", Krymskoy oblasti.

ALIKAYEV, V.A.; TARANENKO, I.L., veterinarnyy vrach; NIKOLAYEV, P.Ya., veterinarnyy vrach; MIKHAYLETS, R.M., veterinarnyy vrach; ARTEMENKO, I.A., veterinarnyy fel'dsher; MOSKALENKO, A.N., veterinarnyy fel'dsher; AL'BERTYAN, M.P., veterinarnyy vrach; SKARBOVENKO, V.I., veterinarnyy vrach; MOROZOV, A.I., veterinarnyy fel'dsher; VESHCHEVAYLOV, V.T., veterinarnyy vrach; LUZHENKO, I.U., veterinarnyy fel'dsher; RUDOMETKIN, Ya.L., veterinarnyy vrach; PARSHUTKIN, I.M., veterinarnyy vrach; GOLOVANOVA, A.I., veterinarnyy vrach; SHIPILOVA, N.M., veterinarnyy vrach; SPIROV, V.D., veterinarnyy vrach; BONDARENKO, V.N., veterinarnyy vrach; KOVAL', P.K., veterinarnyy fel'dsher; ZHAMSUYEV, B.TS., veterinarnyy vrach; APALEV, Ye.M., veterinarnyy vrach; KOLOTIY, N.A., veterinarnyy vrach

Diseases of the young animal, their prevention and treatment; based on data received by the editors. Veterinariia 39 no.1:49-54 Ja '62. (MIRA 15:2)

1. Besedinskaya rayonnaya veterinarnaya lechebnitsa, Kurskoy oblasti (for Taranenko). 2. Bo'she-Sosnovskaya rayonnaya lechebnita, Permskoy oblasti (for Nikolayev). 3. Aleksandrovskiy veterinarnyy uchastok, Voznesenskogo rayona, Nikolayevskoy oblasti, Ukrainskoy SSR (for Mikhaylets, Artemenko, Moskalenko). 4. Kolkhoz "40 let Oktyabrya", Tarliyskogo rayona, Moldavskoy SSR (for Al'bertyan).

(Continued on next card)

KOLOTIY, Nikolay Petrovich, zasl. sotr. Ukr.SSR; SURIGINA, Ye. [Surygina, E.], red.

[Production base for rural construction] Vyrobnycha baza sil'skoho budivnytstva. Kyiv, Budivel'nyk, 1965. 57 p. (MIRA 19:1)

KOLOTIY, P.G., kand.tekhn.nauk

Increase in the effectiveness of operational communication systems in sectional stations. Trudy TSNII MPS no.258:232-247 '63.
(MIRA 16:9)
(Railroads--Communication systems)

KOLOTIY, P.G.; DZHALILOV, D.

Preparing train-sheets by means of an electronic computer. Vop. vych. mat. i tekh. no.3:80-94 '64. (MIRA 18:9)

27557
S/170/61/004/010/012/019
B108/B102

4

26.2311

AUTHORS: Kolotiy, V. A., Gerchikov, D. S.

TITLE: Effect of the electrode material on the ignition of explosive gas mixtures by a spark discharge

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 10, 1961, 97-100

TEXT: The authors statistically studied the effect of various electrode metals on the ignition of hydrogen-air mixtures. The spark was produced by contacting the electrodes , consisting of the pure test metal. The capacitance C of the capacitor which discharged across the electrodes was taken as a measure of the discharge energy. The ignition probability was recorded as a function of the discharge energy. It was found that the ignition probability P decreased with the number of sparks. The first spark had the highest P, the second spark in the case of Cu, Fe, Ni, and Ti had an ignition probability which was lower by about one order of magnitude. The highest ignition probability, under equal conditions, was found for C, Cd, Ca, and Pb, the lowest for Si, Cu, Fe, Sn, and Cr. P rose with the oxygen content of the electrode surfaces. The ignition

Card 1/2

PASECHNIK, M. V.; BARCHUK, I. F.; VERTEBNYY, V. P.; VLASOV, M. F.; KOLOTIY, V. V.; MAYSTRENKO, A. N.; MOSTOVOY, V. I.; NAZARCHUK, M. M.; PILIPETS, D. T.

"The parameters of the WWR-M reactor of the Inst of Physics, AS UkSSR and its application in nuclear physics research."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

SUVOROV, V.A.; SAAKOV, B.A.; KOLOTIYENKO, D.I.; ALENINA, L.G.

Functional characteristics of the course of burn shock in radiation sickness. Eksper. khir. i anest. 8 no.4:10-12 Jl-Ag '63. (MIRA 17:5)

1. Kafedra patofiziologii (zaveduyushchiy-prof. A.N. Gordiyenko), i kafedra rentgenologii i radiologii (zaveduyushchiy-prof. A.I. Dombrovskiy) Rostovskogo meditsinskogo instituta.

KOLOTIYENKO, D. I.

USSR / Human and Animal Physiology. Effect of Physical Factors. T-13

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 3978

Author : Gubareva, N. A.; Gora, N. F.; Kolotilenko, D. I.
Inst : Rostov-on-Don Medical Institute
Title : Experimental Therapy and Prophylaxis of Animals from Injury by Ionizing Irradiations

Orig Pub : Tr. Otchetn. nauchn. konferentsii (Rostovsk. n/D. med. in-t) za 1956, Rostov n/D, 1957, 773-777

Abstract : Mice were subjected to Roentgen irradiation at a dose of 400 r (DL_{100}) and the prophylactic and therapeutic effect was studied of NaBr (0.1 g/kg), preparation RD (fraction γ; 0.01 - 0.02 g/kg), caffeine (0.01 g/kg), hyposulfite (0.5 g/kg), pentoxyl (0.05 g/kg), vitamin B_{12} (1 γ each), cysteine (0.01 g/kg) and combination of NaBr with vitamin B_{12}, cysteine and caffeine. All preparations prolonged life somewhat and caffeine, vitamin B_{12} and preparation RD

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each with dose of [illegible]
dogs were subjected to daily irradiation of 20 r each, total dose 220-760 r. The lethal dose for dogs was 800 r, and for cats 1000-1200 r. The death of males took

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USSR/Human and Animal Physiology - (Normal and Pathological). T
Action of Physical Factors. Ionizing Radiation.

Abs Jour : Ref Zhur Biol., No 4, 1959, 18079

place faster. In all animals, a decrease of weight by 10-30% was observed. In the acute form of the disease, the T° curve had an intermittent character, the increase coinciding with the beginning of the peak of the disease. In the subacute form, the T° was normal. In acute and subacute forms, leucopenia, lymphopenia and increased ESR were observed in dogs.

Card 2/2

KOLOTIYEVSKIY, A.; KOMAR, I.; MESHKAUSKAS, K.; PURIN, V. [Purins, V.]
TARMISTO, V.

The new in the economic geography of the Soviet Baltic States.
Vestis Latv ak no.9:171-175 '60. (EEAI 10:9)

(Baltic States—Economic conditions)

KOLOTIYEVSKIY, A.M.

The Latvian University. Izv. AN SSSR. Ser. geog. no.6:137-138 N-D '61. (MIRA 14:12)

(Latvia--Geographical research)

KOLOTIYEVSKIY, A.M; PURIN, V.R., YAUNPUTNIN', A.I.; ASOYAN, N.S., redaktor; RIVINA, I.N., tekhnicheskiy redaktor.

[Latvian S.S.R.] Latviiskaia SSR. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 117 p. (MLRA 8:8)
(Latvia--Economic geography)

KOLOTIYEVSKIY, A.M.; PURIN, V.R.

Geographers of the Latvian S.S.R. Izv.AN SSSR.Ser.geog.no.1:165-167 Ja-F '57. (MLRA 10:4)
(Latvia--Geography)

KOLOTIYEVSKIY, A.

ALAMPAYEV, P.; VASYUTIN, V.; DZERVE, P.; KOLOTIYEVSKIY, A.; PURIN, V.; ROSTOVTSEV, M.; FEYGIN, Ya.

F.IU. Deglav; obituary. Izv. AN SSSR, Ser. geog. no.6:178 N-D '57. (Deglav, Fritsis IUr'evich, 1898-1957) (MIRA 11:1)

SOV-10-58-4-28/28

AUTHORS: Vasyutin, V., Dzerve, P., Kolotiyevskiy, A., Purin, V., and Feygin, Ya.

TITLE: Nikolay Aleksandrovich Kovalevskiy (Deceased)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1958, Nr 4, pp 155 - 156 (USSR)

ABSTRACT: This is an obituary of N.A. Kovalevskiy, Academician of the Latvian Academy of Sciences, Professor, Doctor of Economic Sciences. There is one photograph.

1. Scientific personnel--USSR

Card 1/1

USCOMM-DC-55793

KOLOTIYEVSKIY, A. M., KOMAR, I. V., MESHKAUSKAS, K., PURIN, V. K., and TARMISTO, V. Yu.

"New features in economic geography of Soviet Baltic Republics (the Role of the so-called 'cultural factor' in Geographical phenomena.)"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

KOMAR, Igor' Valer'yanovich. Prinimali uchastiye: KOLOTIYEVSKIY, A.M., dots.; KHISMATOV, M.F., dots.; GRIGOR'YEV, A.A., akademik, otv. red.; NEMCHINOV, V.S., akademik, otv. red. FRADKIN, N.G., red.izd-va; RYLINA, Yu.V., tekhn. red.

[Geography of the economy of the Urals by regions] Geografiia khoziaistva Urala; poraionnaia ekonomiko-geograficheskaia kharakteristika. Moskva, Izd-vo "Nauka," 1964. 393 p. (MIRA 17:4)

ACCESSION NR: AP4032877 S/0051/64/016/004/0708/0709

AUTHOR: Vergunas, F.I.; Kolotkov, V.V.; Yashin, E.M.; Smirnova, L.I.

TITLE: Some properties of film type electroluminescent capacitors

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 708-709

TOPIC TAGS: electroluminescence, electroluminescent capacitor, zinc compound, electroluminophor

ABSTRACT: The authors prepared and tested film type electroluminescent capacitors. The films were obtained by vacuum sublimation of yellow EL-580 electroluminophor (a zinc sulfide phosphor - composition not specified). There were prepared low-voltage and high-voltage film capacitors; the latter differed from the former by the presence of a dielectric layer between the sublimated film and the electrode. The films were about 1 micron thick; the electrodes were made of SnO_2 and Al. The variation of brightness as a function of the applied voltage is shown in the figure (Enclosure 01). As regards both their voltage and frequency characteristics the low and high-voltage capacitors differed from each other and from power-filled conventional capacitors. The low-voltage capacitors rectified the current in the range of low voltages. Where frequency dependence of the brightness is concerned the low-vol-

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ACCESSION NR: AP4032877

tage films are characterized by a horizontal curve (the brightness is frequency independent); the high-voltage capacitors by a rising straight line; the powder capacitors by a curve with a flat maximum. None of the film capacitors exhibited photoluminescence under stimulation by 354 and 310 mμ radiation. Investigation of the brightness waves showed that the films have only one principal peak in phase with the voltage. For films with a thick dielectric layer the peak was observed for both polarities; for the films with a thin dielectric layer the brightness peak is evinced only when the Al electrode is negative. Orig.art.has: 2 figures.

ASSOCIATION: none

SUBMITTED: 15Jul63 DATE ACQ: 07May64 ENCL: 01

SUB CODE: OP, EC NR REF SOV: 000 OTHER: 001

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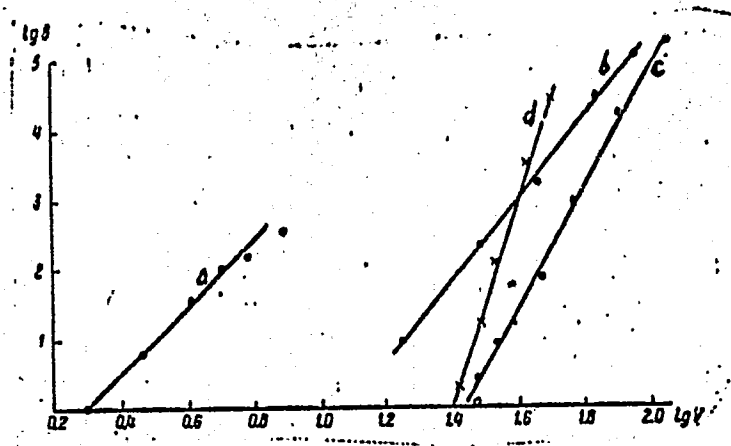
ACCESSION NR: AP4032877

ENCLOSURE: 01



Variation of brightness B with voltage V: a) low-voltage film, b) powder, c) high-voltage film with thick dielectric layer, d) film with thin dielectric layer.

Card 3/3

L 26485-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6013063 SOURCE CODE: UR/0048/66/030/004/0612/0613

AUTHOR: Vergunas, F.I.; Yashin, E.M.; Kolotkov, V.V.; Danilova, N.L.

ORG: None

TITLE: Preparation of ZnS:Cu:Mn film electroluminescent capacitors and the influence of some parameters on their characteristics [Report, Fourteenth Conference on Luminescence held in Riga, 16-23 September 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 612-613

TOPIC TAGS: electroluminescence, zinc sulfide, crystal phosphor, film capacitor

ABSTRACT: The film capacitors were prepared by vacuum sublimation of the ZnS:Cu:Mn phosphor onto glass plates precoated with SnO_2 (transparency 85%; resistance 5 to 50 ohm), annealing of the sublimate coated plates, and successive evaporation of a layer of SiO and an electrode layer of Al. All the operations, including the subsequent measurements of the optical and electric characteristics were carried out without breaking the vacuum. The variation of brightness B with the voltage V was characterized by a power function: $B \sim V^{\alpha}$. Plots of log E versus log E (E is the field strength) were mostly straight lines; except that the plots for thinner films showed a bend (decrease in slope) in the range of high current (high field) values. The frequency dependence of B is also characterized by a power function: $B \sim f^{\beta}$. As a result of heating of the

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L 26485-66

ACC NR: AP6013063

films the resistance of the SnO_2 layer decreased, the decrease being greater for greater ZnS layer thicknesses; the increase in resistance, i.e., the annealing, had little effect on the exponents α and β. In the absence of a dielectric (SiO_2) interlayer between the film and the Al, the films did not luminesce. The effect of film thickness is evinced mainly in shift of the log B versus log E plots along the log E axis with little or no change in slope, i.e., α is almost independent of the film thickness (except in the range of thin films and strong fields). With variation of the Cu and Mn contents in the batch the breakdown voltage and the brightness vary along a curve with a broad maximum, i.e., the log B versus log V plots shift along the log V axis. This made it possible to realize films of optimum brightness; these were also characterized by good reproducibility. Thin (0.13 μ) films yielded up to 20 nit at 9.8 V and 1000 nit at 20 V; thick films (0.7 μ) yielded 20 nit at 39 V and as much as 5100 nit at the pre-breakdown voltage of 84 V. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2 RB

L 26482-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6013066 SOURCE CODE: UR/0048/66/030/004/0618/0619

AUTHOR: Vergunas, F.I.; Kolotkov, V.V.; Yashin, E.M.; Danilova, N.L.

ORG: None

TITLE: Concerning the mechanism of electroluminescence of ZnS:Cu:Mn film capacitors /Report, Fourteenth Conference on Luminescence held in Riga, 16-23 September 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 618-619

TOPIC TAGS: electroluminescence, crystal phosphor, zinc sulfide, luminophor, film capacitor

ABSTRACT: The purpose of the work was to elucidate the nature of the electroluminescence mechanism in electroluminophor films. For the experiments there were prepared "conventional" film capacitors consisting of glass plates with successive layers of SnO_2, sublimated ZnS:Cu:Mn, dielectric (100 to 200 Å layer of SiO), and Al (electrode). Comparison with the results obtained in studying powders of the same phosphor indicated that the electroluminescence mechanism in the films is different from the mechanism in powders: whereas in powders excitation and emission occur during different half-periods, in films both processes obtain during the same half-period. As a result of analysis of the experimental data it is concluded that the following series of processes are involved in the electroluminescence of ZnS:Cu:Mn films: injection of electrons into the ZnS from the SnO_2 or extraction of electrons from the sublimate (depending on the volt-

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L 26482-66

ACC NR: AP6013066

age half-cycle), impact ionization of the lattice, build-up or storage of electrons in the vicinity of the anode, and, finally, recombination of the electrons with holes, accompanied by luminescence. A figure shows the voltage dependences of the brightness and the rectified current; the two curves in logarithmic coordinates are approximately parallel. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

KOLOTLIN, G.F.; BOYKO, S.N.

Increasing the resistance of the organism with preparations derived from Eleutherococcus. Mat. k izuch. zhen'. i drug. lek. rast. Dal'. Vost. no.5:257-259 '63. (MIRA 17:8)

1. Khabarovskiy meditsinskiy institut.

KOLOTOV, B.A.; KISELEVA, Ye.A.; RUBEYKIN, V.Z.

Second dissemination of ore deposits. Geokhimiia no.7:878-880 Jl '65. (MIRA 18:11)

1. Submitted October 24, 1964.

L 10269-67 EWT(1) GW

ACC NR: AP7003095 SOURCE CODE: UR/0007/66/000/007/0846/0853

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KRAYNOV, S. R., RUBEYKIN, V. Z., KAPRANOV, S. D., KOLOTOV, B. A., PETROVA, N. G., and KISELEVA, All-Union Scientific Research Institute of Hydrogeology and Engineering Geology, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy gidrogeologii i inzhenernoy geologii)

"Some Peculiarities of Beryllium Geochemistry in Underground Waters"

Moscow, Geokhimiya, No 7, Jul 66, pp 846-853

TOPIC TAGS: underground water, geochemistry, beryllium compound

ABSTRACT: On the basis of beryllium distribution study in various types of underground waters (subsoil, carbonated) it has been established that the beryllium may be rather widely spread in these waters. Maximum beryllium contents are established in subsoil aureole waters of pneumatolytic deposits as well as noncarbonated waters of crystalline rocks. The main forms of beryllium migration in underground waters are the oxide and fluorine-and-carbonate-beryllates.

G. A. Volkov and A. K. Lisitsyn served as consultants in determining the forms of beryllium migration in water. Orig. art. has: 6 figures and 5 tables. [JPRS: 37,428]

SUB CODE: 08, 07 / SUBM DATE: 29Jul65 / ORIG REF: 011 / OTH REF: 005

Card 1/1 blp

UDC: 550.42:546.45-551.49

IL'ICHEVA, Ye.N.; KOLOTOV, I.S.

Interrupted processes of pulsed magnetic reversal. Izv. AN SSSR. Ser. fiz. 29 no.4:552-554 Ap '65. (MIRA 18:5)

L 15[illegible]-66 EWT(1)/EWP(e)/EWT(m)/T/EWP(t)/EWP(b) LJP(c) JD/GG

ACC NR: AP6004481 UR/0048/66/030/001/0103/0107

AUTHOR: Telesnin,R.V.; Il'icheva,Ye.N.; Kolotov,I.S.

ORG: Physics Department, Moscow State University im. M.V.Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Investigation of pulse switching processes in thin films by a magneto-optical technique [Transactions of the Second All-Union Symposium on the Physics of Thin Ferromagnetic films held at Irkutsk 10 July to 15 July, 1964]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 1, 1966, 103-107

TOPIC TAGS: ferromagnetic film, magnetic thin film, Kerr effect, magnetic domain structure, magnetization, pulsed magnetic field.

ABSTRACT: The switching process in two 1990 Å films of undisclosed composition and having anisotropy fields of 3.9 and 3.5 Oe was investigated by observing with the aid of the Kerr effect the domain structures left after partial switching with pulses of duration from 20 to 800 nanosec and amplitude up to 23 Oe. The film was mounted at the center of a cube of Helmholtz coils and was oriented with its easy axis in a specified direction by observing the behavior of the magnetization when a strong transverse field was switched off, or by noting the absence of a transverse hysteresis loop. The magnetic field of the switching pulse could be directed at a given angle to the easy axis to within a fraction of a degree. The switching time is defined as the duration of the pulse that leaves the film 90% switched. The switching time along

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the easy axis in the presence of transverse fields up to 0.4 Oe was compared as a function of the switching field with analogous switching times measured by conventional techniques by O.C.Kolotov and V.A.Pogozhev (Izv. AN SSSR. Ser. fiz., 29, No. 5, 1 (1965)). The switching times measured with the present technique were some 20% longer than the conventionally measured switching times. The switching coefficient was 0.38 Oe μ sec and the threshold field obtained by extrapolation of the linear portion of the plot of inverse switching time against switching field was 5 Oe. The inverse switching time versus switching field curves for small inclinations of the switching field to the easy axis were straight lines when the switching field exceeded twice the anisotropy field and were curved in the region of lower switching fields. There was no marked difference between the domain structures left by low and high switching fields. When the inclination of the switching field to the easy axis exceeded the dispersion angle the switching coefficient dropped rapidly to 0.05-0.03 Oe μ sec and the switching times became so short that the domain structures in intermediate stages could be observed only with low switching fields. In a film switched at 60° to the easy axis there were observed short narrow domains extended along the easy axis, which were grouped into bands that were inclined at approximately 30° to the easy axis. This inclination corresponds to that of the band domains observed by S.Middelhoek (I.B.M. J. Res. and Develop., 6, 394 (1962)) in quasistatic partial magnetization rotation. Curves of constant switching time were constructed. These curves differed considerably from astroids, but their approximate shape could be derived from an astroid by taking into

L 15420-66
ACC NR: AP6004481

2

account the anisotropy dispersion. The authors thank O.S.Kolotov and V.A.Pogozhev for assistance in comparing the two methods for determining the switching time. Orig. art. has: 4 figures.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 003 OTH.REF: 001

Card 3/3

KOLOTOV, K. S.

"Curved Surfaces and Their Linear Representation." Cand Tech Sci, Kiev Construction Engineering Inst, Min Higher Education USSR, Kiev, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

KOLOTOV, M.; LOKALENKO, A.

In the interests of technological progress. Sov. profsoiuzy 4 no.9:35-37 S '56. (MLRA 9:10)

1. Ispolnyayushchiy obyazannosti zaveduyushchego otdelom proizvodstvenno-massovoy raboty Bashkirskogo sovprofa (for Kolotov) 2. Starshiy instruktor Bashkirskogo sovprofa (for Lokalenko).
(Bashkiria--Efficiency, Industrial)

PUZANKOV, V.M.; KEYLIN, G.S.; KOLOTOV, M.G.

Technical information and publicity at the "Krasnogvardeets" Factory.
Med. prom. 14 no.8:62-63 Ag '60. (MIRA 13:9)
(TECHNICAL EDUCATION)

KOTOVICH, V.V.; KOLOTOV, M.G.

A nontracing method for duplication of technical documents. Med. prom. 16 no.5:53 My '62. (MIRA 15:9)

1. Mediko-instrumental'nyy zavod "Krasnogvardeyets".
(COPYING PROCESSES)

SMIRNOV, I.V.; KOLOTOV, M.G.

Automatic machine for manufacturing paper sleeves for cables. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. 17 no.4:43-44 Ap '64. (MIRA 17:6)

AZROVA, TS.S.; ARKHIPOV, A.P.; VINOGRADOV, A.V.; GRABOVSKIY, I.V.; GRISHINA, R.I.; DMITRIYEV, P.D.; DUBINSKIY, Ye.L.; ZABRODIN, B.V.; KOLOTIY, M.V.; KRASNOV, B.S.; KURDYUKOVA, N.V.; L'VOVA, Yu.M.; OBUKHOVA, A.V.; FOMIN, V.G.; MEDVEDEVA, M.A., tekhn. red.

[Album of drawings of TE3, TE7, TE2, TE1, TEM1, and TU2 diesel locomotives; electric apparatus] Al'bom chertezhei teplovozov TE3, TE7, TE2, TE1, TEM1 i TU2; elektricheskie apparaty. Moskva, Transzheldorizdat. Vol.2. 1963. 394 p. (MIRA 16:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye lokomotivnogo khozyaystva.

(Diesel locomotives--Electric equipment)

KOLOTOV, N.A.; BOCHEK, A.P., red.; PETIN, M.I., red.izd-va; LAVRENOVA, [redacted], tekhn.red.

[Damages incurred by seagoing ships and their prevention] Avarii morskikh sudov i ikh preduprezhdenie. Moskva, Izd-vo "Morskoi transport," 1959. 231 p. (MIRA 12:12)
(Marine accidents) (Ships--Maintenance and repair)

BELYKH, D.P., kand. ist. nauk; VALYULIS, I.A.; GOTSKIY, M.V., kapitan dal'nego plavaniya [deceased]; D'YACHUK, I.L., kapitan dal'nego plavaniya; KALMYKOV, F.A., kapitan dal'nogo plavaniya; KREMS, A.K., kapitan dal'nogo plavaniya; KOLOTOV, N.A., dots.; PETRENKO, S.A.; RASKATOV, A.S.; FISHER, Ye.L.; DVORNAYK, B.M., otv. red.; LEVITSKIY, V.L., red.; LYUTIKOV, V.K.; MALAKHOV, N.N., red.; POL', P.A., red.; RASKATOV, A.S., red.; CHICHVARKHIN, V.S., red.; RADOSTIN, V.A., red.; LAVRENOVA, N.B., tekhn. red.

[History of Far Eastern Steamship Lines]Istoriia dal'nevostochnogo parokhodstva; ocherki. Moskva, Izd-vo "Morskoi transport," 1962. 263 p. (MIRA15:11)
(Soviet Far East—Merchant marine)

KOLOTOV, O.S.

81987

S/120/60/000/03/018/055
E041/E521

9.3260

AUTHORS: Kolotov, O.S., Lobanov, Yu.N., Obukhov, A.S. and Polev, N.M.

TITLE: Short-Duration Pulse Generators

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 73-76

ABSTRACT: At present the most suitable industrial thyratron available for short pulse work is the TGI1-3/1 which breaks down in less than 5 ns with a variation in the instant of breakdown of less than 1 ns (see Refs 2-4). However it will only support about 1 kV at the anode and is thus suitable for low-voltage working only. The production of high-voltage pulses requires a subsequent amplifier. Fig 1 shows a suitable circuit in which the pulse driving the thyratron is formed in valves 6P14P and 6P13s. The output stages use GI-30 valves. The driving pulse is positive, 200 V and has a rise time of 20 ns. The pulse-forming line at the thyratron anode is a shorted length of RK-20 coaxial cable. A capacitance of 10-20 pF is found to be necessary at the

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Short-Duration Pulse Generator

anode to improve the pulse shape. The cathode load of the thyratron is the input impedance of the length of terminated coaxial cable which connects the pulse to the final amplifier. This final driving pulse is positive, 300 V and has a rise time of 5 ns. The final amplifier offers alternative paths giving either polarity output. Each output valve is a parallel-connected double-tetrode. Valve L5 gives out a negative pulse whose rise and fall times will be less than 5 ns provided the load resistance is less than 200 ohms. Valve L_4 gives a positive output and special precautions are necessary when driving this valve, as shown in Fig 2. In order to transmit a flat-topped pulse of given duration, the cable inductance must satisfy the condition at the foot of p 75. For short pulses the practical arrangement consists of 17 turns of RK-20 cable of adjustable pitch wound on a 40 mm diameter ceramic former containing a ferrite core. This produces

Card 2/3

Short-Duration Pulse Generator

an inductance of 10 microhenries suitable for a 0.1 μsec pulse. The interstage pulse transformer in the thyratron drive circuit has two windings of 40 turns of TEL-0.23 wound on a toroidal ferrite core, internal diameter 2.5 cm and 0.42 cm^2 section. With 75 ohm loads the positive output is 1 kV with a rise time of 5 ns, the negative output is >1 kV with a rise time <4 ns. With a higher resistance load the positive output can be raised to 2.5 kV in 6 ns. Pulse amplitudes may be varied smoothly by controlling the final anode supply between 0 and 3.5 kV. At repetition frequencies up to 1 kc/s the current required is only about 10 mA mean. Fig 3 shows oscillograms of pulses with half-amplitude durations of 8 ns and 50 ns. The marker pulses are spaced at 8 ns. The author thanks A. A. Sanin for his assistance.

There are 3 figures and 4 Soviet references.

SUBMITTED: May 5, 1959

Card 3/3

27704
S/120/61/000/003/015/041
E073/E535

9.6000 (1040, 1159)

AUTHORS: Kolotov, O.S., Lobanov, Yu.N. and Shil'berskiy, Z.

TITLE: Generator of nanosecond pulses with continuous regulation of the pulse duration

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No.3, pp.87-89

TEXT: The authors utilise the well known method of generation of pulses of microsecond duration with two thyratrons, the instants of triggering of which can be controlled for generating square topped voltage pulses with a maximum amplitude of 1.2 kV. Two thyratrons (Fig.1) feed a common load, the resistance in the cathode of one of the thyratrons $Л_4$ (L_4). If this thyratron is fired, a positive pulse of considerable duration with an amplitude of up to 500 V and a front of 5 nanosec will be generated, depending on the capacitance of the condenser in the anode circuit of this thyratron. After the second thyratron $Л_5$ (L_5) is fired a very similar pulse of negative polarity will flow through that resistance. A resultant voltage pulse will appear only if there is a time shift of the instants of ignition of the thyratrons. Pre-amplifying stages are

Card 1/4

provided for improving the shape of the pulse and increasing the amplitude of the triggering pulse. The stages with the tubes Π_2 (L_2) and Π_3 (L_3) have the additional function of reducing the mutual influence of the grid circuits of the thyratrons. The surge taken from the cathode load of the thyratrons will have a front with a rise time of 5 to 6 nanoseconds. To improve further the steepness of the front, the formed pulse is fed to the input of a limiter Π_6 (L_6) in which pulses with front rise times below 3 nanoseconds and an amplitude of 400 V can be generated using a relatively low anode load (50 Ohm cable). The amplitude of this pulse can be increased to 1200 V by using one amplifier stage, the load of which is a cable having a wave resistance of 75 Ohm. Since the tubes operate under surge conditions, only a negative polarity pulse can be generated in the anode circuits of the tubes under cut-off conditions. For triggering the tubes of the output stage, the negative pulse from the previous stage has to be inverted. This is done by means of a section of coaxial cable which is wound onto a ferrite core. The oscillator is triggered with pulses of 0.5 μsec and longer and with fronts of

0.25 μsec of a minimum amplitude of about 40 V. The pulse generator is stable in operation for pulse repetitions with frequencies up to 3 kc/s. The pulse duration can be controlled within the limits of 3 to 300 nanoseconds. Acknowledgments are expressed to A. A. Sanin for advice and comments. There are 3 figures and 2 references: 1 Soviet and 1 English which reads as follows: R. W. Rochelle. Rev. Scient. Instrum. 1952, 23, 298.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU (Scientific Research Institute for Nuclear Physics, Moscow State University)

SUBMITTED: July 18, 1960

Card 3/4

KOLOTOV, O.S.; LOBANOV, Yu.N.

Amplifying short pulses in case of pulsed current supply to amplifier tubes. Prib. i tekh. eksp. 6 no.2:94-97 Mr-Ap '61. (MIRA 14:9)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.
(Amplifiers, Electron-tube)

KOLOTOV, O.S.; SANIN, A.A.; SHIL'BERSKIY, Z.

Device for the adjustment of a pulse equipment in the millimicrosecond range. Prib.i tekh.eksp. 6 no.5:82-86 S-O '61. (MIRA 14:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.
(Pulse techniques (Electronics))

25801
S/048/61/025/005/015/024
B117/B201

24.2200 (1158, 1395, 1482)

AUTHORS: Kolotov, O. S., and Nikitina, T. N.

TITLE: Nanosecond pulse generator for studying the properties of ferromagnetic films in time

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 5, 1961, 622-623

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). A current pulse generator is discussed, the circuit diagram (Fig. 1) of which is based on the principle of a succession of signal limitation and signal amplification. The blocking generator which is containing 6П14П ($Л_1$) (6P14P (L_1)) tube generates a pulse with a rise time of $2 \cdot 10^{-8}$ sec, an amplitude of 180 v, and a total duration of 10^{-7} sec. This pulsed voltage is taken from the secondary winding of the transformer and transmitted to the input of a stage amplifier, working as a limiter with a cathode resistance on the tube $Л_2$ (L_2). The voltage pulse taken from

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Nanosecond pulse generator for...

the cathode resistance on the tube L_2 has, with a rise time of 10^{-8} sec, an amplitude of 350 v. This pulse is transmitted to the input of a further nonlinear amplifier L_3. This stage limits the pulse and at the same time augments its power. With a load of 70 ohms (coaxial inverter) a pulse is generated which, with a rise time of $4 \cdot 10^{-9}$ sec, has an amplitude of 320 v. This pulse is negatively polarized. A coaxial inverter described thoroughly in Refs. 3 and 4 (Ref. 3: Kolotov O. S., Lobanov Yu. N., Obukhov A. S., Polev N. M., Pribory i tekhnika eksperim., № 3, 73 (1960); Ref. 4: Kolotov O. S. Lobanov Yu. N., Shil'berskiy Z., Pribory i tekhnika eksperim., № 3 (1961)) is used for its reversal. It consists of a piece of КПТА (KPTA) cable which is wound around a ferrite ring (Oxifer 2000) in eight turns. The core is 30 mm in diameter and has a cross section of 6 by 6 mm. The inductance of the outer cable plait is sufficient to reverse rectangular pulses up to a 0.1 μsec duration, without distorting their flat peaks. A coaxial PK-19 (RK-19) cable with a wave impedance of 50 ohms forms the anode load of the output stage. The pulse is transmitted over this cable to the magnetic reversal line with the ferromagnetic film. The maximum pulse amplitude is 280 v. This corresponds to a current pulse of 5.6 a. A constant pulse duration,

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Nanosecond pulse generator for...

depending upon the capacitance in the grid-current circuit of the blocking generator, was chosen. It amounted to 10^{-7} sec. The oscillogram of the pulse front showed that the rise time was less than $2 \cdot 10^{-9}$ sec. The generator is put into operation by a positive pulse with an amplitude of 40 v and a rise time of $(0.1 — 0.2) \cdot 10^{-9}$ sec. If necessary, the unit will operate with natural oscillations at a pulse repetition frequency up to 5 kilocycles. To reduce the inductance of the anode circuit the 6П13С (6P13S) tube was shielded by a metal cylinder 45 mm in diameter. The circuit was constructed of ordinary radiotechnical parts; capacitors КСО (KSO) and resistors ВС (VS) were employed. Since the oscillator tubes are blocked in their stable state, the current consumption is very low. The mean capacitance distributed over the electrodes is within the range of admissible values. R. V. Telesnin is thanked for interest displayed. [Abstracter's note: Essentially complete translation.] There are 2 figures and 4 Soviet-bloc references.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova (Division of Physics of Moscow State University imeni M. V. Lomonosov)

25802
S/048/61/025/005/016/024
B117/B201

24.2200 (1158, 1395, 1482)

AUTHORS: Kolotov, O. S., and Nikitina, T. N.

TITLE: Amplification of nanosecond pulses

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 5, 1961, 624-627

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). The possibility is described of amplifying short pulses by amplifier tubes. (Refs. 1-3; Ref. 1: Veretennikov A. I., Averchenko V. Ya., Yegorov A. G., Spekhov, Yu. A., Doklad na IV nauchno-tekhnicheskoy konferentsii po yadernoy radioelektronike, 1959; Ref. 2: Kolotov O. S., Lobanov Yu. N., Pribory i tekhnika eksperim., № 2, 94 (1961); Ref. 3: Kolotov O. S., Sanin A. A., Shil'berskiy Z., Pribory i tekhnika eksperim. (1961)). In the present paper tubes of the type 6Ж22П (6Zh22P) and 6С1П (6V1P) were used in the amplifiers. Under ordinary conditions the grid characteristics of these tubes have a transconductance of ~ 30 ma v^{-1}. The pulsed operation of these tubes was studied by means of a pulse generator described in

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Amplification of nanosecond pulses

Ref. 2. Optimum conditions for the feeding of the tube were chosen from a series of grid characteristics of the pulses. The following conditions were chosen for the 6Zh22P tube: voltage at the anode and the screen grid: 450 v; amplitude of the pulse conducted to the cathode grid: 150 v. An increase of the amplitude beyond 150 v does not essentially increase the transconductance of the grid characteristics but increases the stray capacitance at the cathode grid. Under these conditions maximum transconductance therefore is 80-90 ma/v. It is important that this amount remains almost constant in a relatively large range of grid voltages, from -4 to +1.5 v. The transconductance of the 6V1P tube increases, i.e. it attains 100 — 120 ma/v whenfed by pulses. It remains constant in a range of grid voltages of 6 v (voltage at the anode 1000 v, at the screen grid 800 v, and at the dynode 250 v). By increasing the anode current and the transconductance of the grid characteristics the authors succeeded in obtaining a high amplification factor at relatively low anode resistances (of the order of magnitude of 30-150 ohms). This warrants the necessary wide-band amplification. The circuit diagram of a two-stage amplifier with 6Zh22P tubes is shown in Fig. 3. The amplifier has an amplification factor of 60 at a starting time of less than $3 \cdot 10^{-9}$ sec. The maximum

Amplification of nanosecond pulses

signal amplitude at the amplifier output is 50 v. To obtain a symmetrical voltage at the amplifier output a tube with secondary electron emission must be used. Such an amplifier with the tubes 6Zh22P ($Л_1$) ((L_1)) and 6V1P ($Л_2$) ((L_2)) is shown in Fig. 4. The dynamic characteristics of the amplifier concerned showed that the amplification factor of this circuit diagram is 150 at a maximum voltage of 160 v. The authors succeeded in constructing a four-stage amplifier on the basis of the amplifier described. To load the first two stages, short-circuited sections of a coaxial cable with corresponding resistance were chosen. It is obvious that by using short-circuited cables the duration of the signal to be amplified is limited. In the first stage a RK-50 (RK-50) cable with a wave impedance of 150 ohms and in the second a RK-1 (RK-1) cable with a wave impedance of 75 ohms were used. It is obvious that the load of the first stage is 75 ohms, that of the second one 37.5 ohms. The cable length of 6 m corresponds to the maximum duration of $60 \cdot 10^{-9}$ sec of the signal to be amplified. The amplification factor of the four-stage amplifier is 1600 with a starting time not exceeding $3 \cdot 10^{-9}$ sec. The amplifiers show stable

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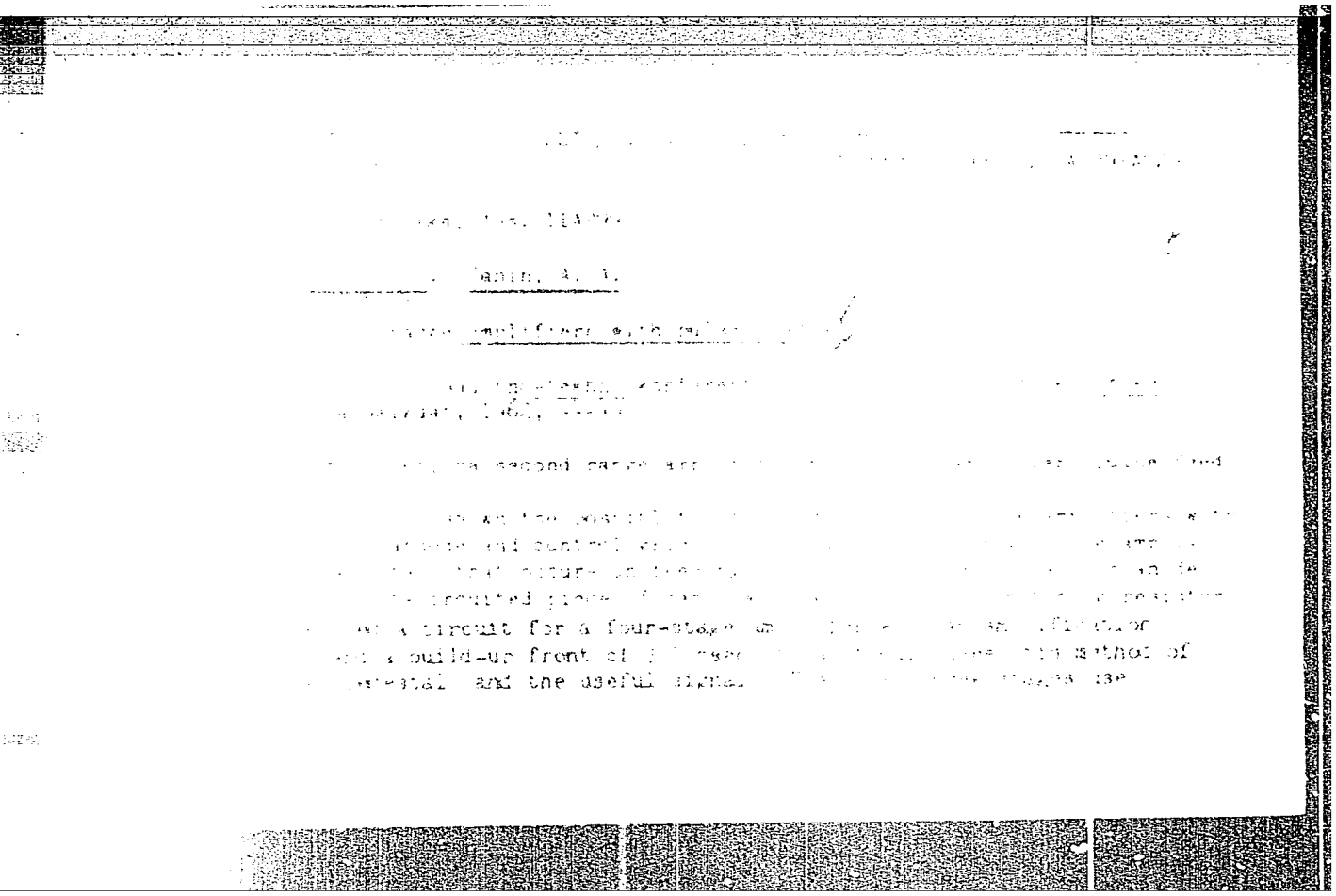
Amplification of nanosecond pulses

operation at a repetition frequency of the feeder pulses up to 1 ko/sec. Current demand is low and does not exceed some milliamperes. The authors thank R. V. Telesnin for advice. There are 6 figures and 3 Soviet-bloc references.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova (Physics Division of Moscow State University imeni M. V. Lomonosov)

Card 4/6



ACCESSION NR: AR4044025

6Zh22P tubes with a suppressor grid. When a positive 100-volt pulse is fed to the [illegible] grid of these tubes the transconductance of their grid characteristic [illegible] pulses are shaped [illegible] are fed [illegible] wers to the amplifier circuit [illegible] the [illegible] 6Zh22P tube. This tube is [illegible] positive by the [illegible] grid. In this case the [illegible] of characteristic is ma/v. The amplifier [illegible] the [illegible] oscillographic meter to align the high-speed [illegible] circuits.

39153
S/120/62/000/003/017/048
E192/E382

9,3280

AUTHOR: Kolotov, O.S.

TITLE: A circuit for forming short pulses

PERIODICAL: Pribory i tekhnika eksperimenta, no. 3, 1962, 79 - 81

TEXT: A novel relaxation oscillator based on a secondary emission tube, type 6B17 (6V1P) is described. This is shown in Fig. 1, where the positive feedback is applied from the anode to the cathode and the control grid is grounded (as concerns the pulses) by the capacitor C . The oscillation condition of the system is expressed as

$$\frac{S_a}{S_K}\,\frac{R}{R + 1/S_K} > 1$$

where S_a and S_K are the slopes of the grid characteristics of the anode and cathode currents, respectively; R is the

Card 1/3

A circuit for ....

resistance of the cathode circuit of the tube. The duration of the pulse formed by the circuit is determined by the current-distribution process inside the tube and the charging of the condenser C . The duration is directly dependent on C and the grid-resistance R_c . R_c increases rapidly with increasing R which, in turn, leads to an increase in the minimum generated pulse. The optimum value of R is about 30 - 50 Ω . The generator produces positive pulses across the load of the dynode and in the circuit of Fig. 1 the output pulse is 50 V in amplitude and has a rise time of 5 ns. The minimum pulse duration is 20 ns with C = 20 pF. If C is further reduced the system becomes unstable. The circuit is triggered by a negative pulse applied to the cathode circuit of the tube and the triggering pulse appearing at the cathode should be greater than 7 - 8 V and its duration should be greater than about 10 ns. A practical circuit based on the circuit of Fig. 1, producing positive and negative pulses, is described. The author expresses his gratitude to A.A. Sanin for his interest in this work and for valuable remarks.

A circuit for ....

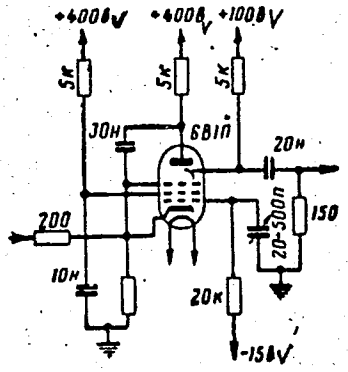
S/120/62/000/003/017/048
E192/E382

There are 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU (Scientific Research Institute of Nuclear Phyics of MGU)

SUBMITTED: October 14, 1961

Fig. 1:



Card 3/3

S/109/62/007/004/018/018
D230/D302

9, 2586

AUTHOR: Kolotov, O.S.

TITLE: Relaxation oscillations caused by the current redistribution in tubes with secondary electron emission

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 4, 1962, 720 - 721

TEXT: In pulse work employing tubes with secondary electron emission regeneration is achieved simply by applying feedback from the dynode to the control grid or from anode to cathode. In the first case regeneration takes place when the voltage across the dynode load is in phase with that of the input grid; in the second case regeneration is possible because the anode current is much larger than the cathode current. In addition to these properties of valves with secondary electron emission, relaxation oscillations are obtained by directly utlizing the process of the current redistribution between the dynode and end electrodes and the falling part of the current/voltage characteristic of the dynode. The circuit employs tube 6 ВИП (6VIP) and the dynode load is formed by an appropriate

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S/120/62/000/005/033/036
E192/E382

AUTHORS: Kolotov, O.S. and Sanin, A.A.

TITLE: A time-amplitude converter circuit

PERIODICAL: Pribory i tekhnika eksperimenta, no. 5, 1962, 181 - 182

TEXT: The simple circuit described is based on a single secondary-emission tube (Fig. 1). Normally, the tube is cut-off by the negative voltage applied to its control grid. When a negative pulse with an amplitude of 7-10 V is applied to the cathode of the tube through a coaxial cable, the tube is open and a regenerative action takes place in it due to the positive feedback through C_1. After triggering the tube a constant current flows through it and the voltage across the capacitance C_2 connected into the dynode circuit rises linearly. The rate of rise of this voltage depends on the magnitude of C_2 and the current flowing to the dynode. If the dynode voltage is comparatively low, its current is practically constant. A negative pulse is applied to the input 2 after a time interval

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τ_1 ; this triggers the tube again and the circuit returns to its original state. If the pulse to the input 2 is applied prior to that of input 1 , the tube is closed and there is no output signal. In this case, if the signal is applied only to the input 1 , a maximum amplitude pulse is produced at the output. The time during which the tube is open in the absence of the signal 2 depends on the capacitance C_3 and the magnitude of the grid currents. The amplitude of the output signal taken from C_2 is linearly dependent on the measured time interval. There are 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU (Scientific-research Institute of Nuclear Physics of MGU)

SUBMITTED: January 22, 1962

KOLOTOV, O.S.

Circuit for producing short pulses. Prib. i tekh. eksp. 7 no.3: 79-81 My-Je '62. (MIRA 16:7)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.
(Oscillators, Electron tube)

KOLOTOV, O.S.

Relaxation oscillations caused by current redistribution in tubes with secondary electron emission. Radiotekh. i elektron. 7 no.4:720-721 Ap '62. (MIRA 15:3)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(Pulse circuits) (Electron tubes) (Secondary electron emission)

40950

S/109/62/007/007/018/018
D256/D308

24.1208

AUTHORS: Telesnin, R. V., Kolotov, O. S. and Nikitina, T. N.

TITLE: Amplitude and time characteristics of some ferromagnetic films

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 7, 1962, 1235-1240

TEXT: The authors investigated the dependence of the speed of the magnetic polarity reversal of ferromagnetic films upon the reversing magnetic field. The films of 79 HM (79 NM) type molybdenum permalloy and a permalloy comprising 78.8% Ni and 21.2% Fe were vacuum-evaporated upon polished glass plates. The anisotropies of the films were determined from the hysteresis loops using 3 nsec rise-time and 240 nsec width pulses for the reversal of the polarity. The signals detected from the films were amplified using a previously described circuit (O. S. Kolotov and T. N. Nikitina, *Izvestiya AN SSSR. Seriya fizicheskaya, v. 25, no. 5, 1961, 625); the signals were then displayed on the screen of a fast c.r.o. The direc-

Card 1/2 * s/048/61/025/005/016/024

tion of the reversing field was parallel to the surface of the film, the latter was placed inside a detecting loop, sensitive to the changes of the longitudinal component of the magnetic flux in the film. The results presented in the form of curves include the dependence of the amplitude of the signal detected from the film and the speed of the polarity reversal upon the reversing field for films of various thickness. The influence of a transverse magnetic field was also investigated. Conclusions: 1) Amplitude of the signal increases with increasing magnitude of the reversing field. 2) Both the amplitude of the signal and the time of the reversal increase with increasing thickness of the film. 3) It is possible to improve the amplitude and time properties of the films by applying a constant transverse magnetic field. There are 10 figures.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Faculty of Physics, Moscow State University im. M. V. Lomonosov)

SUBMITTED: October 31, 1961

Card 2/2

S/120/63/000/001/046/072
E192/E382

AUTHORS: Kolotov, O.S. and Pogozhev, V.A.

TITLE: A source of short pulses for investigating wideband radio circuits

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 164 - 165

TEXT: The circuit diagram of the pulse-generator is shown in Fig. 1. In this the pulses are obtained by successively limiting the pulse generated in the first secondary-emission tube (see the figure). The generator operates as a grounded-grid circuit and can be triggered by a negative pulse applied to the grid of the first tube. The output pulse of the second tube has a rise time of less than 5 mμs. This is amplitude-limited by the third tube and its rise time is reduced to about 2 mμs. At the output of the fourth tube, which also operates as a limiter, the rise time does not exceed 0.8 mμs. The parameters of the pulses so generated are comparable with those obtained by means of a mercury switch, having the additional advantage of high repetition rates (if required). The circuit can therefore be used as a

A source of ....

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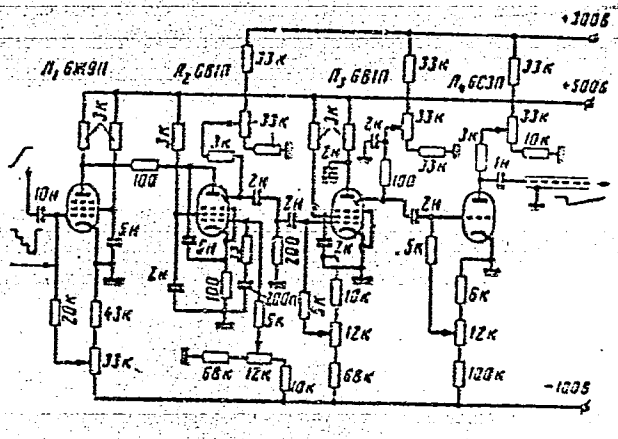
E192/E382

convenient source of short pulses suitable for the investigation of various wideband electronic devices. There are 2 figures.

ASSOCIATION: Fizicheskiy fakul'tet MGU (Physics Department of MGU)

SUBMITTED: February 17, 1962

Fig. 1:



Card 2/2

ACCESSION NR: AP3002727 S/0120/63/000/003/0093/0096

AUTHOR: Kolotov, O. S.

TITLE: On the measurement of the input conductivity of tubes operating under pulse conditions

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 93-96

TOPIC TAGS: pulse-operated tubes, input measurements, admittance

ABSTRACT: A system for measuring the input admittance of a tube operating under pulse conditions was developed. It is based on the assumption that at a given frequency the input admittance may be represented by the admittance formed by input resistance and input reactance connected in parallel. The input resistance was evaluated by measuring the attenuation of shock-excited oscillations in the input circuit connected to the grid network of the tube and registered by a high-speed transient recorder. The system is attached to the transient recorder and consists of a pulse oscillator, a key tube, and a

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ACCESSION NR: AP3002727

preliminary amplifier. The pulses which insure the desired operating conditions of the tube are obtained from the master oscillator of the transient recorder. Pulse amplitude is adjusted from 0 to 1 kv, and pulse duration is 0.8 microsec. The system permits the measurement of input resistances within a range of 100 to 3000 ohms. The upper limit is determined by the attenuation equivalent of the circuit. Within the resistance range indicated, measurement error does not exceed 20%. "The author thanks R. V. Teleshin for his constant interest in this project." Orig. art. has: 6 figures.

ASSOCIATION: Fizicheskiy fakul'tet MGU (Physics Faculty MGU)

SUBMITTED: 15May62 DATE ACQ: 12Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 010 OTHER: 002

Card 2/2

L 18574-63 EWT(1)/EWT(m)/EWP(q)/BDS. AFFTC/ASD/ESD-3/IJP(C) GG/JD

ACCESSION NR: AP3001302 S/0181/63/005/006/1737/1740

65
62

AUTHORS: Kolotov, O. S.; Nikitina, T. N.; Salanskiy, N. M.

TITLE: Dispersion of anisotropy in thin ferromagnetic films 16

SOURCE: Fizika tverdogo tela, v. 5, no. 6, 1963, 1737-1740 21

TOPIC TAGS: dispersion, anisotropy, ferromagnetic, magnetic moment, permalloy, reversing field, magnetization

ABSTRACT: The authors investigated the change in magnetic moment of a film from the hard to the easy direction. A film of permalloy 79NMA was placed in a remagnetizing line in such a position that the reversible field was directed along the trend of difficult magnetization. The change in moment was observed at the trailing edge of the reversing pulse, which had a duration of 4 millimicroseconds. Measurements on the duration of the change from direction of difficult magnetization to that of easy magnetization proved to be independent of the value of the perpendicular magnetic field (within the limits of experimental error). The duration of this change was measured at 18 ± 4 millimicroseconds on one film, 12 ± 4 millimicroseconds on another. It becomes obvious that apparatus with greater resolving power is required for more careful

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L 18574-63

ACCESSION NR: AP3001302

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investigations on this subject. The setup used in the investigations of the present paper has been described in the papers of O. S. Kolotov, Yu. N. Lobanov, and Z. Shil'berskiy (PTE, No. 3, 87, 1961); O. S. Kolotov, T. N. Nikitina (Izv. AN SSSR, ser. fiz., 25, 625, 1961); and O. S. Kolotov, A. A. Sanin, and Z. Shil'berskiy (PTE, No. 5, 82, 1961). "In conclusion the authors consider it their duty to express thanks to Professor R. V. Telesnin for his attention to this work and for valuable critical remarks." Orig. art. has: 1 photograph and 1 figure.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University); Institut fiziki SO AN SSSR Krasnoyarsk (Institute of Physics, SO Academy of Sciences, USSR)

SUBMITTED: 02Feb63 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 002

Card 2/2

L 18950-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3/IJP(C) JD

ACCESSION NR: AP3007508 S/0181/63/005/009/2653/2655

AUTHOR: Telesnin, R. V.; Kolotov, O. S.

TITLE: Some dynamic characteristics of thin permalloy films in the direction of the axis of difficult magnetization

SOURCE: Fizika tverdogo tela, v. 5, no. 9, 1963, 2653-2655

TOPIC TAGS: permalloy film dynamic characteristic, permalloy axis, difficult magnetization, permalloy dynamic characteristic, film dynamic characteristic, permalloy film, ferromagnetic film, dynamic characteristic, film

ABSTRACT: Ferromagnetic films sprayed on a glass base at a pressure of 10^{-5} mm Hg were investigated by using a constant magnetic field H_1 of 6 oe directed along the axis of difficult magnetization. Magnetic polarity reversals were achieved by applying a magnetic field H_2 of 24 oe maximum intensity in the direction opposite to that of the H_1 field. Constant field H_3, whose direction was perpendicular to those of fields H_1 and H_2, was also applied

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ACCESSION NR: AP3007508

from time to time. It was found that for films 1000—3000 Å thick, the dynamic characteristics for the directions of easy and difficult magnetization are similar, the differences being due to the behavior of anisotropic fields and the formation of structural domains. Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 26Apr63 DATE ACQ: 14Oct63 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 008

Card 2/2

ACCESSION NR: AP4006826 S/0120/63/000/006/0098/0102

AUTHOR: Kolotov, O. S.; Pogozhev, V. A.

TITLE: Transfer characteristic meter for the investigation of rapid physical processes

SOURCE: Pribory* i tekhnika eksperimenta, no. 6, 1963, 98-102

TOPIC TAGS: transfer characteristic recording, transfer characteristic measurement, transfer characteristic

ABSTRACT: An instrument for measuring transient (or transfer) characteristics of various devices, such as ferromagnetics, pulse-duty-operating tubes, semiconductors, and spark gaps, is described. It consists of the following units (see Enclosure 1): a steep-pulse generator capable of producing 2-nanosec, 25-amp or 0.8-nanosec, 30-v pulses; a master oscillator (a blocking generator) with a 180-v, 70-nanosec-front pulse; a voltage generator that develops 150-v,

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ACCESSION NR: AP4006826

5-nanosec-front pulses with flat tops; a pulse-modulated 6521D-tube time marker that produces 0.5, 2, 10, and 25-nanosec marks; a supply generator that feeds 600-nanosec, 600-v pulses to the amplifier. A laboratory hookup was tested with two picture tubes: 13LO101M and 13LO3I. "The authors wish to thank R. V. Telesnin for his constant interest in the work and his valuable critical comments." Orig. art. has: 4 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 24Dec62 DATE ACQ: 24Jan64 ENCL: 01

SUB CODE: SD NO REF SOV: 004 OTHER: 000

Card 2/2

KOLOTOV, O.S.

Measuring the input conductivity of tubes operating in a pulsed system. Prib. i tekh. eksp. 8 no.3:93-96 My-Je '63.
(MIRA 16:9)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.
(Electron tubes) (Electric conductivity--Measurement)

L 34794-66 EWT(1)

ACC NR: AR6017205 SOURCE CODE: UR/0058/65/000/012/A035/A035

AUTHOR: Kolotov, O. S.

TITLE: Some questions of shaping nanosecond pulses with the aid of nonlinear amplifiers

SOURCE: Ref. zh. Fizika, Abs. 12A331

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat, 1964, 158-172

TOPIC TAGS: pulse shaper, nanosecond pulse, pulse amplifier

ABSTRACT: The author considers the operating features of nonlinear vacuum-tube amplifiers (limiters) intended for shaping nanosecond pulses. Using as an example a stage made up of four tetrodes (2 GI-30 tubes connected in parallel), he obtains the transient characteristic, from which it follows that the output of such a stage is a shaped pulse with rise time ~1.5 sec, amplitude 950 v, and overshoot at the top of 6% due to the formation of a virtual cathode in the space between the anode and the screen grid. A practical three-stage amplifier employing the output stage considered above is described. The results of the experiment were in good agreement with calculation. Bibliography, 9 titles. V. P. [Translation of abstract]

SUB CODE: 09

Card 1/1

ACCESSION NR: AP4023409 S/0048/64/028/003/0572/0579

AUTHOR: Telesnin, R.V.; Il'icheva, Ye.N.; Kanavina, N.G.; Kolotov, O.S.; Nikitina, T.N.; Shishkov, A.G.

TITLE: Investigation of some dynamic properties and the domain structure of thin iron-nickel films /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.3, 1964, 572-579

TOPIC TAGS: thin ferromagnetic films, thin permalloy films, thin film domain structure, thin film coercive force, film magnetization switching, thin film hysteresis

ABSTRACT: The dispersion of the direction of the anisotropy axis, magnetization reversal (switching) time, coercive force, and anisotropy field were measured for a number of thin films of permalloy 79НМА. Changes in the domain structure of the films during quasistatic magnetization reversal were observed by means of the magnetooptical Kerr effect. The films were vacuum deposited on polished glass at various temperatures and with various values of applied magnetic field. The dispersion of the anisotropy was measured by a slight modification of the method of D.O.Smith

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ACCESSION NR: AP4023409

(J.Appl.Phys.33,1399,1962). The field $H_{0.7}$ at which the flux linking the transverse coil reached 0.7 of its maximum value was taken as a measure of the dispersion. Both $H_{0.7}$ and the switching ratio (the product of the magnetization reversal time by the excess of the magnetizing field over the coercive force) behaved similarly as functions of the temperature and magnetic field at deposition. From this it is concluded that the dynamic properties of the films are determined by the dispersion of anisotropy. Curves showing the reciprocal of the magnetization reversal time as a function of the magnetizing field in the presence of a constant transverse field were straight lines hvaing a single sharp bend. The bend is interpreted as indicating a transition from magnetization by uniform rotation to magnetization by non-uniform rotation. The product of the magnetizing field and the transverse field at the transition was a linear function of $H_{0.7}$ for films of the same thickness. From an analysis of the rather complex hysteresis phenomena observed in films with a tapering edge (thickness falling to zero over a distance of 1 or 2 mm), and from obserations of the accompanying changes of domain structure, it was possible to determine the field at which reverse magnetization nuclei began spontaneously to form. This field was 2.0 Oe for nearly all the films, regardless of thickness. Critical curves for magnetization reversal in slowly changing fields making various angles

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ACCESSION NR: AP4023409

with the easy magnetization axis did not conform to the theory of uniform rotation of magnetization. Both domain wall displacement and incoherent rotation appeared to be involved. The critical angle was a function of the ratio of the coercive force to the anisotropy field, and was independent of film thickness. The values obtained for films from 1200 to 1700 Å thick agree with those obtained by W.Metzdorf (Z.Ang. Phys.14,7,421,1962) for films of half this thickness. In films having a tapering edge, magnetization reversal in fields making a small angle with the easy magnetization axis occurred suddenly; a reverse magnetization nucleus would expand to fill the whole film as soon as it was formed. Orig.art.has: 1 formula, 12 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 006 OTHER: 005

3/3
Card

[illegible] Kolo[illegible], G.[illegible]

[illegible] of the [illegible]ects of the transv[illegible] [illegible] the rate
[illegible]magnetization of thin permalloy films

[illegible] metallovedeniye, [illegible]

[illegible] film, remagnetization[illegible]
[illegible] coherent rotation, [illegible]

In order to clarify the mechanism of remagnetization, the authors investigate the effects of the transverse magnetic field on the dynamic processes that occur in Permalloy films having a minimum thickness of 500 Å. The film was produced by thermal evaporation in the external magnetic field. The relationship [illegible] it takes the films to be remagnetized and the transverse field [illegible] at various values of remagnetizing field H_n was [illegible] experimental[illegible] showed the existe[illegible] [illegible] coherent rotation to coherent [illegible] the [illegible] [illegible] H_n [illegible] H_t.

Card 1/2

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of field H[illegible]. The product [illegible] the film and to a certain extent by the [illegible] in linear the dispersion of anisotropy. The [illegible] that the results corroborate the fact that the [illegible] tropy

$$H_R \cdot \sin\alpha_{0,7} = \Delta_{0,7},$$

[illegible] between the mean direction [illegible] is the field strength at [illegible] from [illegible] which is taken as a measure [illegible] anisotropy [illegible] of the non-coherent rotation [illegible] under which [illegible] towards a coherent rotation. Orig. art. [illegible] figures.

[illegible] Mosuniversitet imeni M. [illegible] State

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NO REF SOV: [illegible] [illegible]

Card 2/2

USPENSKIY, V.A.; RADCHENKO, O.A.; GLEBOVSKAYA, Ye.A.; GORSKAYA, A.I.; SHISHKOVA, A.P.; PARPAROVA, G.M.; KOLOTOVA, L.F.; MEL'TSANSKAYA, T.N.; NERUCHEV, S.G., red.

[Principles of the genetic classification of bitumens]. Osnovy geneticheskoi klassifikatsii bitumov. Leningrad, Nedra, 1964. 266 p. (Leningrad, Vsesoiuznyi neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy. no.230).
(MIRA 17:7)

KOLOTUSHKINA, A.P., kand. ekonom. nauk

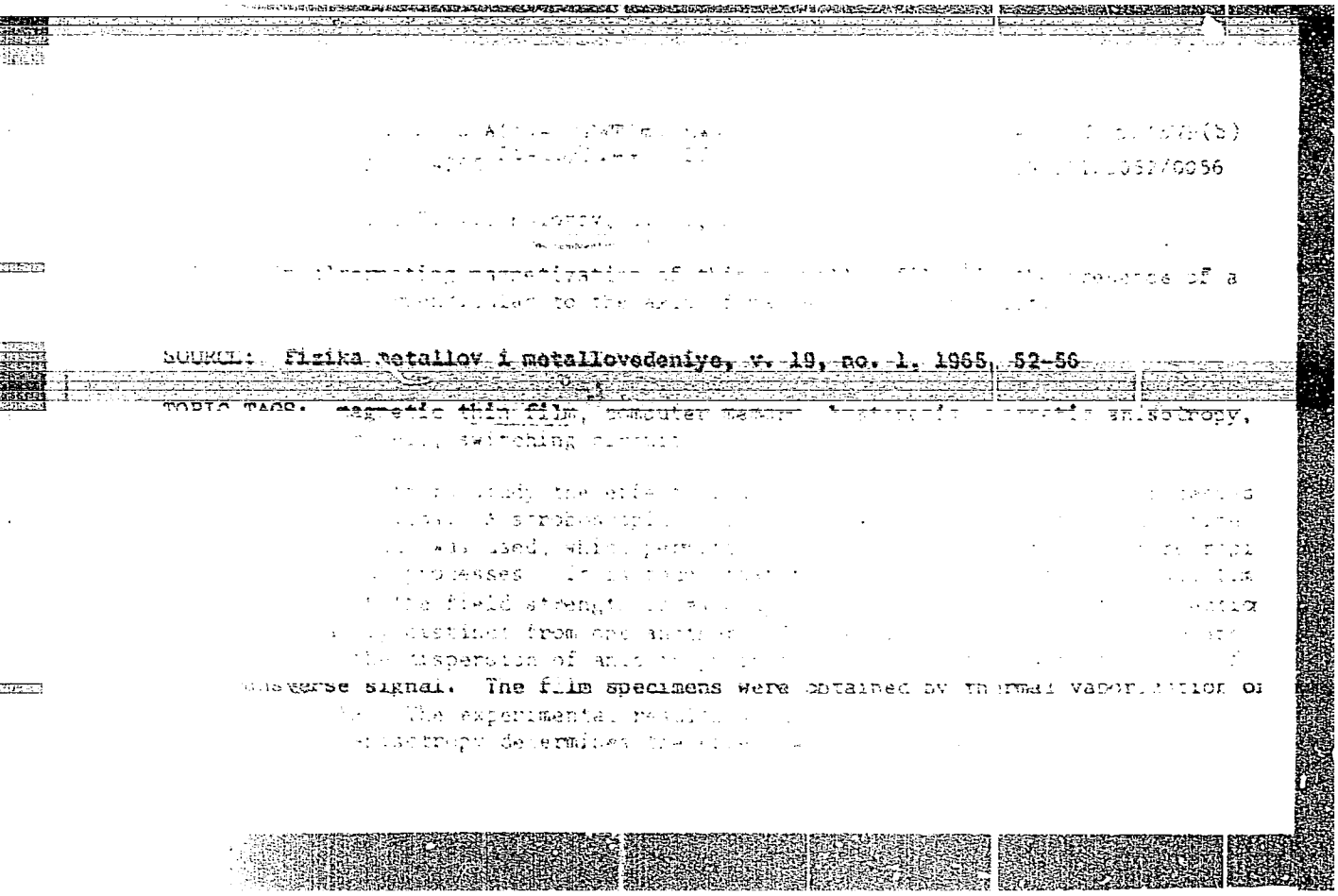
Planning wholesale prices for agricultural machines. Trakt. i sel'khozmash. no.5:39-42 My '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

TELESNIN, R.V.; KOLOTOV, O.S.

Investigating the effect of a transverse magnetic field on the rate of magnetic reversal of thin permalloy films. Fiz. met. i metalloved. 17 no.6:834-838 Je '64. (MIRA 17:8)

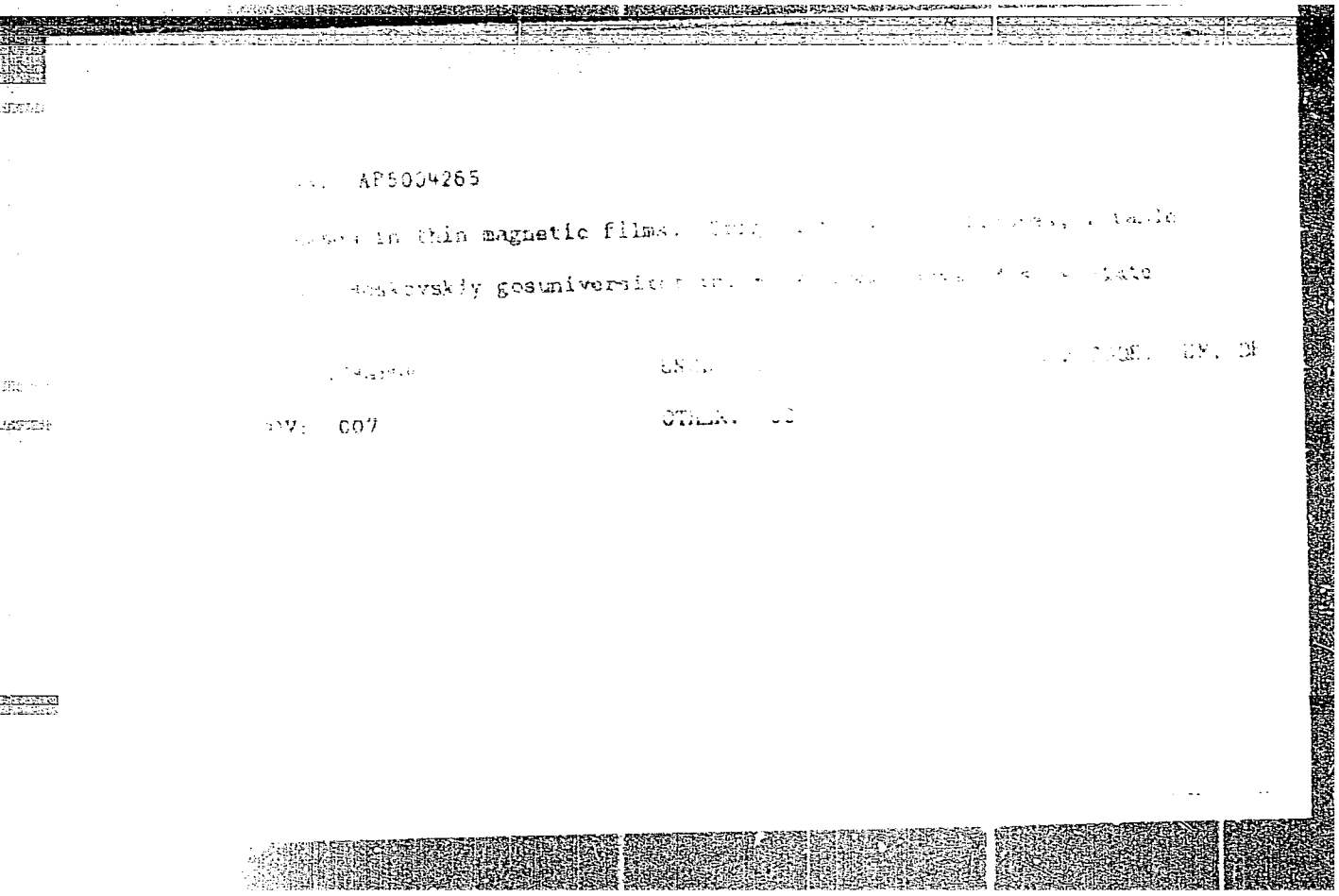
1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.



SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 1, 1965, 52-56

TOPIC TAGS: magnetic thin film, computer memory, ferromagnetic anisotropy, switching circuit

inverse signal. The film specimens were obtained by thermal vapor



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in thin magnetic films.

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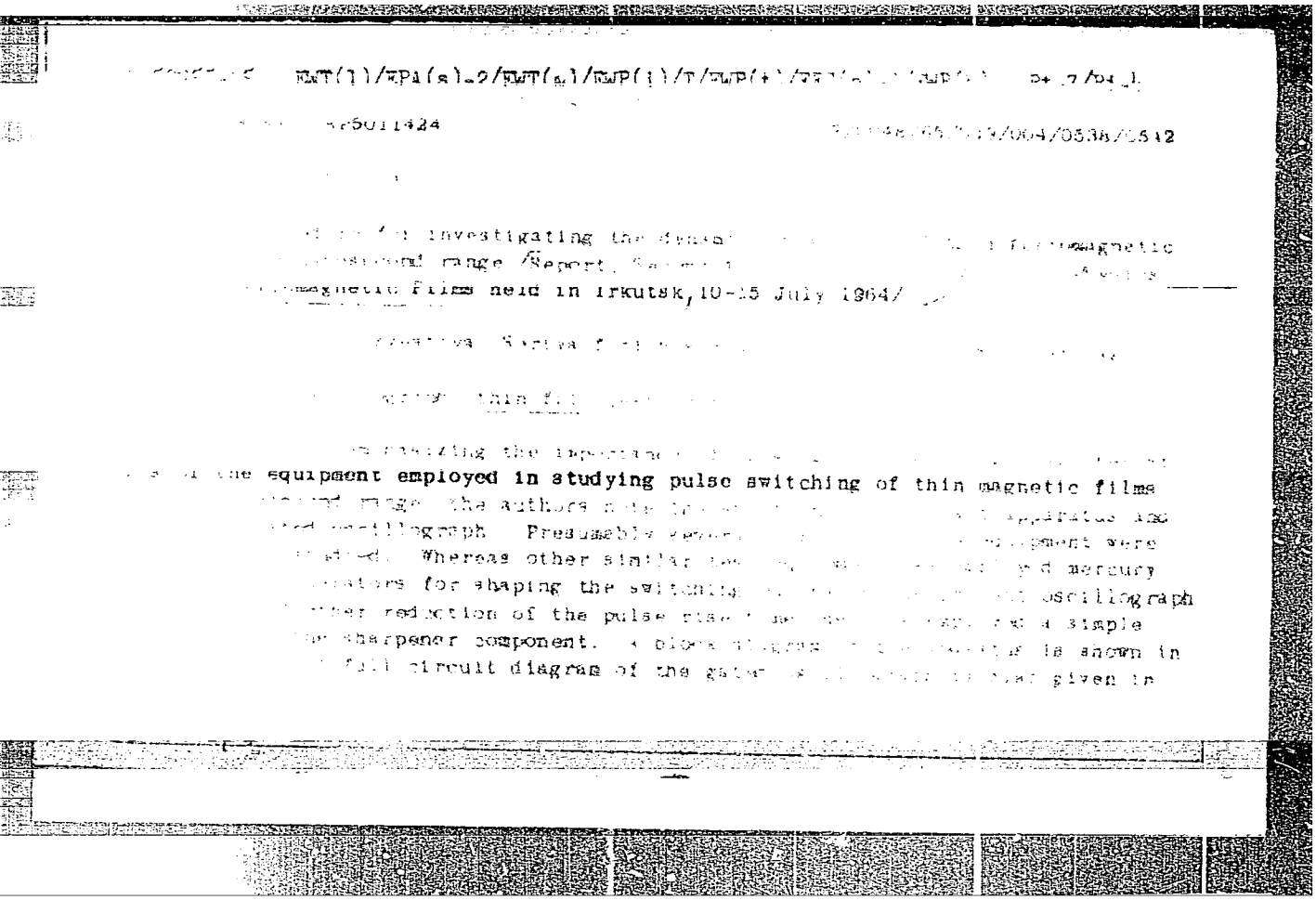
DOV: 007



...investigating the dynam... ...ferromagnetic
...ond range /Report, ...
...magnetic films held in Irkutsk, 10-15 July 1964/ ...

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...the equipment employed in studying pulse switching of thin magnetic films
...ond range the authors ... ...apparatus and
...oscillograph. Presumably ... ...equipment were
...ed. Whereas other similar ... ...d mercury
...ators for shaping the switching ... ...oscillograph
...ther reduction of the pulse ris... ...a simple
...sharpener component. ... ...is shown in
...full circuit diagram of the gate ... ...given in

ACCESSION NR: AP5011424

0543/0543

Telesnin, R.V.

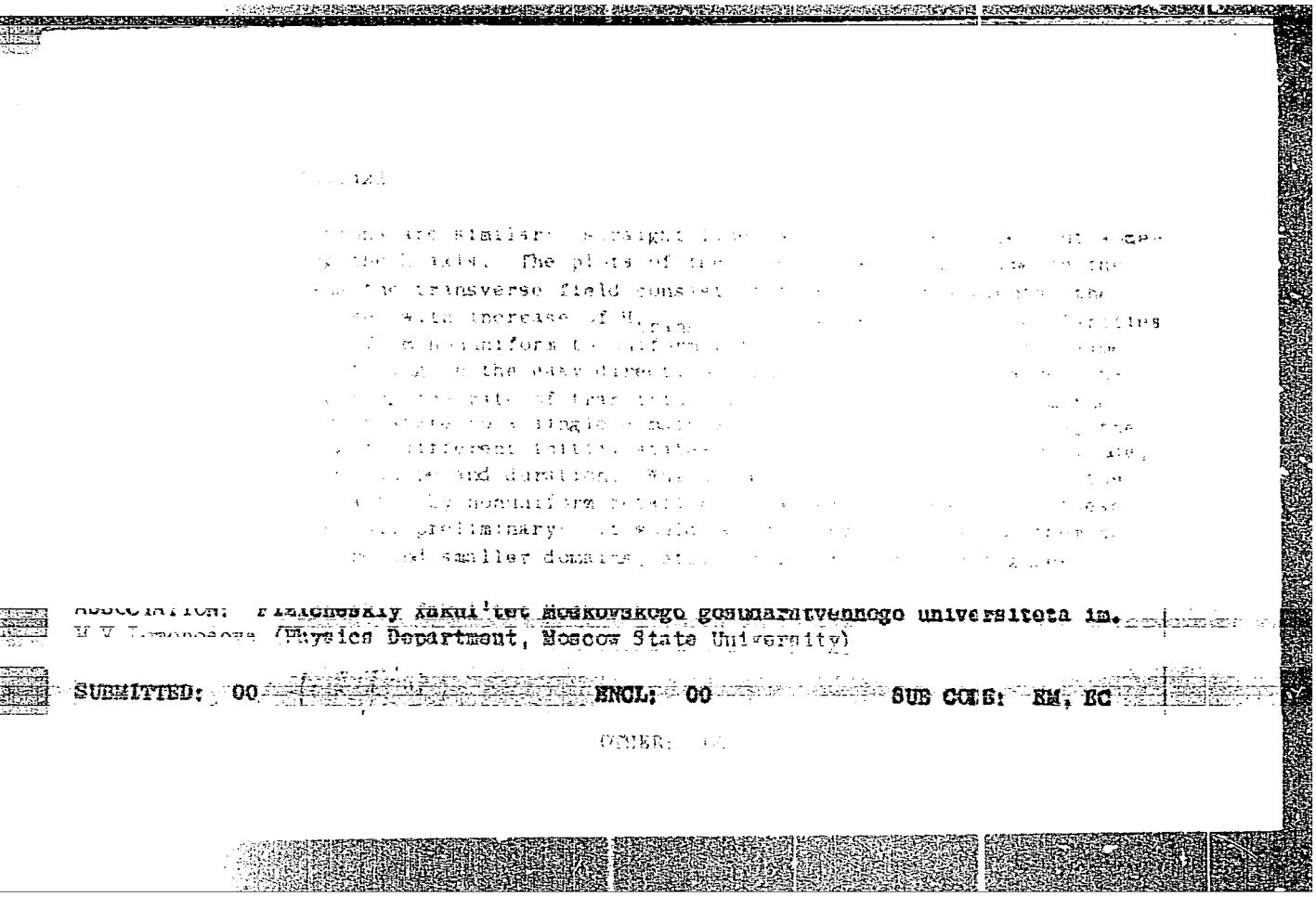
[illegible] some of the features [illegible] Thin
Report, Second All-Union Symposium [illegible] of Thin Ferro-
in Irkutsk, 10-15 July 1964.

[illegible] Fiziki

[illegible] permalloy, ferromagn[illegible]

[illegible]

purpose of the experimental study was [illegible]
aspects of the mechanism of nonuniform rotation in thin ferromagnetic films in the
switching. The investigated films were prepared by vacuum evapora-
Permalloy and were studied in part [illegible]
[illegible] fibers and deposited [illegible]
[illegible] to the hard and [illegible]
[illegible] of the inverse switching [illegible]
where H_p is the pulse field [illegible]
[illegible] field and H_k is the [illegible]



ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova (Physics Department, Moscow State University)

SUBMITTED: 00 ENCL: 00 SUB CODE: EM, EC

OTHER: